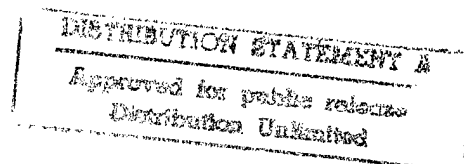


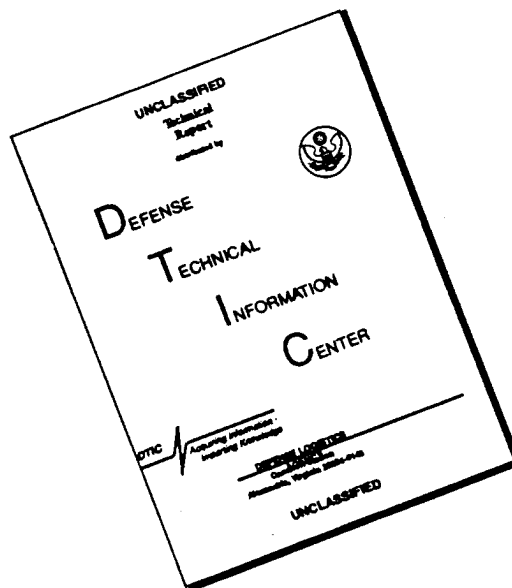
"A Phase I Archaeological Survey of Two Trail Alternates Between Burke Tank Motor Park and Wilson Road, Fort Knox Military Reservation, Hardin County, Kentucky" by Pamela A. Schenian and Stephen T. Mocas, Fort Knox. November 1995.



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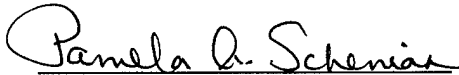
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<p>In October 1995, the Fort Knox contract archaeology staff conducted a Phase I archaeological survey of two alternate proposed trails between the Burke Tank Motor Park and Wilson Road on the Fort Knox Military Reservation, Hardin County, Kentucky. The two alternate corridors each are approximately 5 m wide and 400 m long, encompassing a total of 0.99 acre (0.4 ha). The total area surveyed was 400 m by 400 m, an area of 39.5 acres (16 ha). The selected path will be cleared and graded with heavy machinery. Both alternates were walked in their entirety, and the adjoining areas from the railroad tracks on the north to the parking area on the south also were evaluated for potential cultural resources. No archaeological sites were found in this study. It is recommended that the trail construction be conducted as proposed.</p>			
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A Phase I Archaeological Survey of Two Trail Alternates
Between Burke Tank Motor Park and Wilson Road,
Fort Knox Military Reservation, Hardin County, Kentucky

by
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November 1995


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ABSTRACT

In October 1995, the Fort Knox contract archaeology staff conducted a Phase I archaeological survey of two alternate proposed trails between the Burke Tank Motor Park and Wilson Road on the Fort Knox Military Reservation, Hardin County, Kentucky. The two alternate corridors each are approximately 5 m wide and 400 m long, encompassing a total of 0.99 acre (0.4 ha). The total area surveyed was 400 m by 400 m, an area of 39.5 acres (16 ha). The selected path will be cleared and graded with heavy machinery. Both alternates were walked in their entirety, and the adjoining areas from the railroad tracks on the north to the parking area on the south also were evaluated for potential cultural resources. No archaeological sites were found in this study. It is recommended that the trail construction be conducted as proposed.

MANAGEMENT SUMMARY

In accordance with Executive Order 11593 and other applicable federal laws and regulations, a Phase I archaeological survey was conducted of two alternate proposed trails in the cantonment of the Fort Knox Military Reservation, Hardin County, Kentucky. The entirety of the proposed trails plus adjoining areas between and to the north and south of the trails were surveyed. No evidence was found of archaeological sites. It is recommended that the trail construction be conducted as proposed.

TABLE OF CONTENTS

	<u>Page</u>
Abstract	i
Management Summary	ii
Table of Contents	iii
List of Figures	iii
Introduction	1
Previous Research	4
Survey Predictions	5
Setting and Field Methods	5
Conclusions and Recommendations	6
References Cited	8
Appendix A. Resumes of Key Personnel	10

LIST OF FIGURES

	<u>Page</u>
Figure 1. Location of the Trail Alternates and Area Surveyed	2
Figure 2. Vegetation and Field Methods	3

INTRODUCTION

In October 1995, the Fort Knox contract archaeology staff performed a Phase I archaeological survey of two alternate proposed trails between the Burke Tank Motor Park and Wilson Road on the Fort Knox Military Reservation. The proposed trails and the additional surrounding wooded area that was surveyed are within the cantonment of the installation, which is in Hardin County (Figures 1 and 2).

The proposed north trail extends almost due east from the north end of the tank motor park and terminates at Wilson Road. The south trail extends eastward from the south end of the facility and bends slightly southward in the middle to avoid a sinkhole, then it returns to the eastward line and continues to Wilson Road. Each proposed trail is approximately 5 m wide and 400 m long. The area surveyed was bordered on the north by the westward bend in the railroad line and to the south by the parking areas north of Brave Rifles Regiment Avenue. The total area surveyed was 400 m by 400 m, encompassing 16 ha or 39.5 acres. The proposed path chosen for improvement will be cleared with heavy machinery and then graded.

In 1993, the Fort Knox Contract Staff Archaeologist obtained all the documents necessary to perform Phase I literature searches for the installation (e.g., site forms, reports of previous investigations, historic maps). These documents are on file at the Environmental Management Division of the Directorate of Public Works, Fort Knox, and are updated regularly. No file check, therefore, was made with the Office of State Archaeology and the Kentucky Heritage Council specifically for this project.

A literature search revealed that the project area had not been previously surveyed. It also revealed that no military construction or demolition had previously taken place in the project area, so there was still some potential for historic cultural resources. Therefore, during the present project all portions of both proposed trails and the some adjoining wooded areas were inspected by walkover, supplemented by shovel probing.

The proposed trails lie in the karst uplands of the Plain section of the Pennyrile cultural landscape. The project area lies in the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35). Elevations in the project area range from 700 to 760 feet. Soils are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). Drainage throughout the project area is into sinkholes.

The archaeological survey was conducted in preparation for the clearing and grading of one of the two proposed

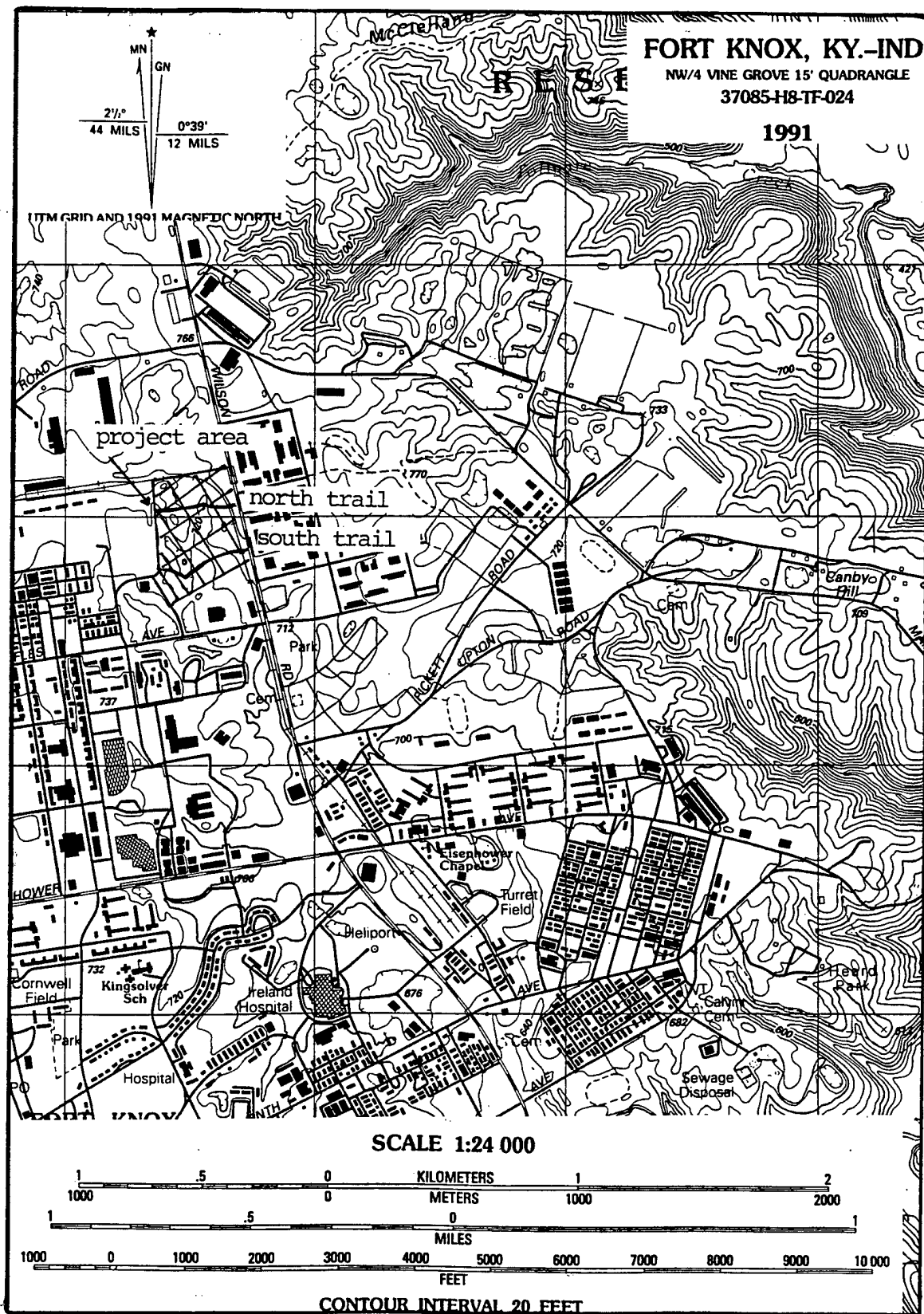


Figure 1. Location of the Trail Alternates and Area Surveyed.

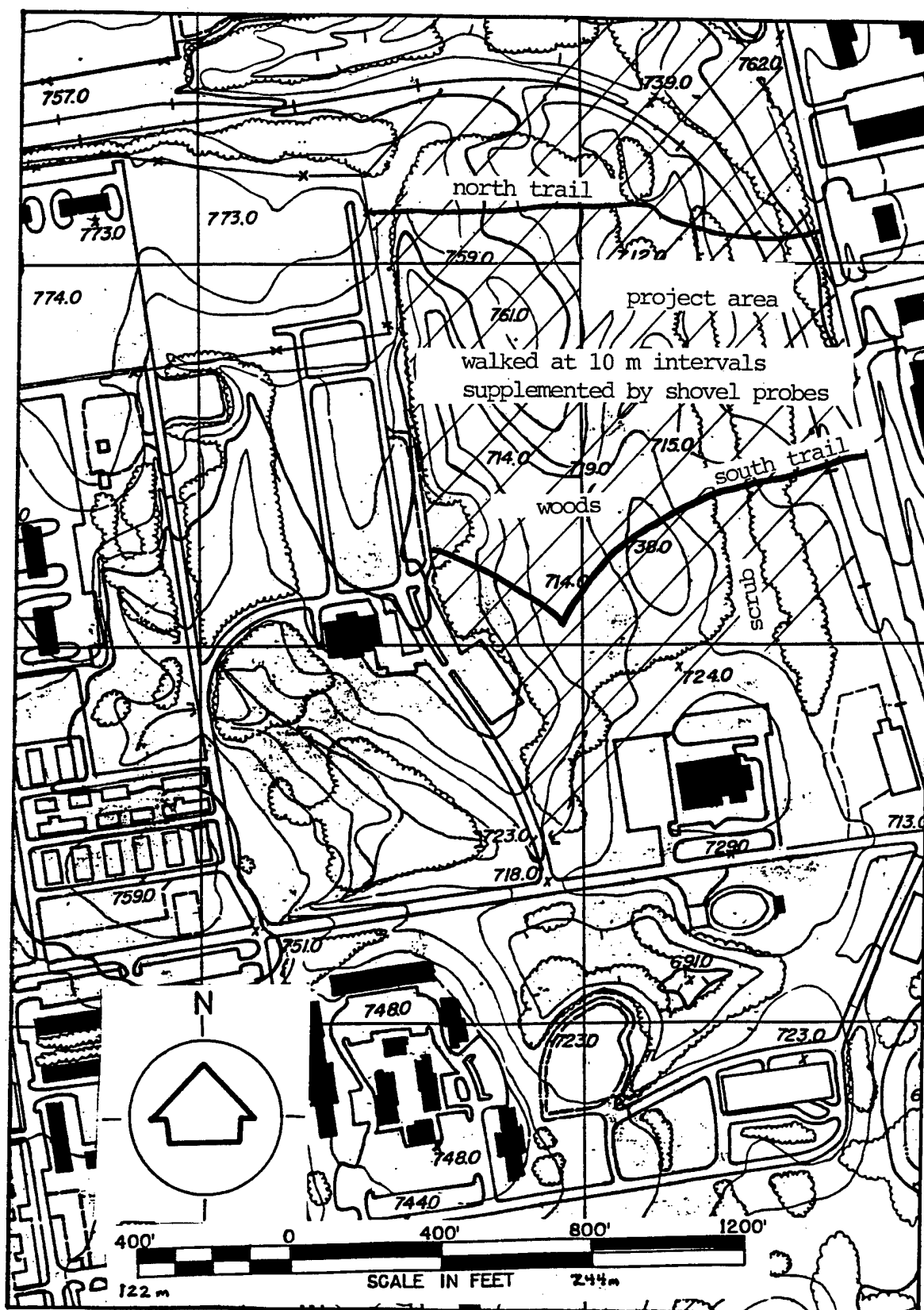


Figure 2. Vegetation and Field Methods.

alternate trails between Wilson Road and the Burke Tank Motor Park. The archaeological survey and literature review were required to comply with the National Environmental Policy Act, or NEPA, (Public Law 91-190), the Historic Preservation Act of 1966, as amended (Public Law 89-665), the Archaeological Resources Protection Act of 1979 (Public Law 96-95), Presidential Executive Order 11593, and Army Regulation 420-40.

The project area was surveyed on October 31, 1995. A total of 3.0 person hours were spent in the survey of the project area. No artifacts were observed or collected in this survey. Documentation of this project will be curated at the University of Louisville Program of Archaeology, on a "permanent loan" basis, under contract number DABT 23-95-C-0102, for curatorial and technical support (copy of contract on file, DPW, Fort Knox, Kentucky). Duplicate copies of the documentation will be stored at the Directorate of Public Works (DPW), U.S. Army Armor Center and Fort Knox, Fort Knox, Kentucky.

PREVIOUS RESEARCH

Approximately 26,260 acres of the Fort Knox installation have been surveyed for archaeological sites at some level, primarily in cultural resource management (CRM) studies. Schenian and Mocas (1994) summarize the archaeological studies conducted on or near the installation through August 1994. No portion of the project area had been previously surveyed, although several nearby areas had been examined. This section will focus on the previous research conducted within a 2 km radius of the current project area.

Within 2 km of the project area, O'Malley et al. (1980) surveyed approximately one-quarter of Hunting Area (HA) 19 and HA 20. Mocas (1993) described the results of the survey of a proposed landfill and borrow pit tract, in which no archaeological sites were encountered. Mocas (1994a) surveyed a proposed water tower tract and pipeline, encountering no sites. Mocas (1994b) surveyed a proposed sports complex, encountering no sites. Schenian (1995a) surveyed a proposed timber harvest area, encountering no sites. Schenian (1995b) describes the results of the survey of a proposed construction tract and adjoining areas, in which 15Hd496 was recorded. Site 15Hd496 is located approximately 2.0 km from the current project area.

No archaeological sites listed on or known to be eligible for listing on the National Register of Historic Places are located in or near the current project area. No buildings listed on or known to be eligible for the National Register are located in or within the viewshed of the project area. The only buildings within view of the project

area are of post-World War II military construction or are World War II temporaries of types covered by a nationwide study. No cemeteries are located in or near the project area.

SURVEY PREDICTIONS

Based on previous archaeological research in the area, the history of settlement, and the environmental setting of the project area, the following results were expected:

- 1) The project area lies next to railroad tracks on the east and north sides. Much of the area along the tracks has been deeply borrowed. Powerlines pass through the project area and the area under them has been cleared. Military trails and roads and at least one historic civilian road transect the project area and are likely to have caused considerable disturbance.
- 2) Much of the project area consists of several deep sinkholes that are too steep to support habitation. The karstic plain typically has had a low prehistoric site density on Fort Knox.
- 3) Historic maps indicate that the project area encompassed portions of four properties at the time of Army acquisition, but the associated structures were not within the project area. There is therefore a low potential for historic archaeological sites.
- 4) Two knolls above the sinkholes could be the location of prehistoric or historic activity, but these areas are likely to have been disturbed by trails and roads.

SETTING AND FIELD METHODS

The proposed trail alternates are located in the Plain section of the Pennyryle cultural landscape and the Salt River Section of the Salt River archaeological management area. The project area is in the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35) in the upland karstic plain. Elevations in the project area range from 700 to 760 feet.

Drainage in the project area is into sinkholes. Soils in the project area are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). Soils on the level upland areas are Nicholson silt loam, two to six per-

cent, on the upper slopes are Crider silt loam, six to 12 percent, and on the sides of the ravines the soil is Ver-trees silt loam, 12 to 20 percent. The soil contains as much as 10 percent chert pieces (Arms et al. 1979), but this highly fragmented residual material is too small and too filled with natural fracture lines to be useful for the production of chert tools. The bedrock underlying the soils in the project area is the St. Louis Limestone formation (Kepferle and Sable 1977).

Each proposed trail was walked in its entirety and shovel probes were placed in areas of limited visibility. High potential areas adjacent to the trails also were examined for cultural resources.

If the ground surface was obscured by vegetation for greater than 10 m within a transect, then a shovel probe was excavated. Each shovel probe was approximately 30 cm square at ground surface and excavated to a depth of at least 25 cm or until subsoil was encountered. The fill was trowel sorted for possible cultural materials. Ground surface visibility was generally 50 percent or better, with only a light leaf cover obscuring the surface. No evidence of any archaeological materials was observed in this project area.

The area had many bulldozer piles, erosional gullies, and tracked vehicle ruts. It appeared that much of the area along the north and east margins had been borrowed for use as fill in the construction and maintenance of Wilson Road and the railroad bed. Foxholes and bivouac features indicated that the area had been used for military training activities. No evidence of archaeological materials was observed in this project area. Modern refuse was noted, however, especially around the sinkholes and bivouac area. Structural debris was scattered in a line east of the tank motor pool and north of the large sinkhole, and most of a roof was twisted around a large tree. This modern metal roof almost certainly was wind-deposited here during the violent May 16, 1995, storm that swept through Hardin and adjoining counties. Several large trees had also been toppled in this vicinity.

CONCLUSIONS AND RECOMMENDATIONS

The Phase I literature search of the proposed trails and adjacent areas determined that none of the project area had been previously inspected. It also determined that this section of the cantonment had not been the site of previous military construction or demolition. The project area was field inspected by walkover and shovel probing in the current study. The field inspection resulted in the discovery of no archaeological sites. It is recommended that the

installation be permitted to construct the trail as proposed.

Access to the project area is available from paved Wilson Road and Spearhead Loop and the gravel road which extends north of Spearhead Loop along the east side of Burke Tank Motor Pool. No impact to any significant cultural resource is therefore expected as a result of the movement of vehicles to be used in this project.

In the remote possibility that archaeological materials are discovered during the trail construction, all work in the vicinity of the finds must cease and the State Historic Preservation Officer (502-564-7005) and the DPW Staff Archaeologist (502-624-6581 or 502-624-3629) should be contacted, so a representative of those agencies may evaluate the materials. Also, if human remains, regardless of age or cultural affiliation, are discovered, all activity in the vicinity of the remains must cease immediately, and the state medical examiner (502-564-4545) and the appropriate local law enforcement agency (Fort Knox Law Enforcement Command, 502-624-6852) must be contacted, as stipulated in KRS 72.020.

REFERENCES CITED

- Arms, Fred S., Michael J. Mitchell, Frank C. Watts, and
Byron L. Wilson
1979 Soil Survey of Hardin and Larue Counties, Kentucky.
U.S. Department of Agriculture, Washington, D.C.
- Funkhouser, William D., and William S. Webb
1932 Archaeological Survey of Kentucky. Reports in
Anthropology and Archaeology Vol. 2. University of
Kentucky, Lexington.
- Kepferle, Roy C., and Edward G. Sable
1977 Geologic Map of the Fort Knox Quadrangle, North-
Central Kentucky. Department of the Interior, United
Geological Survey, Washington, D.C.
- McGrain, Preston, and James C. Currens
1978 Topography of Kentucky. Kentucky Geological Survey
Series X. Special Publication 25. University of
Kentucky, Lexington.
- Mocas, Stephen T.
1993 A Phase I Archeological Survey of a Proposed Con-
struction/Demolition Debris Landfill and Borrow Pit
on the Fort Knox Military Reservation, Hardin
County, Kentucky. Directorate of Public Works, Fort
Knox.
- 1994a A Phase I Archaeological Survey of a Proposed Water
Tower and Pipeline on the Fort Knox Military Reser-
vation, Hardin County, Kentucky. Directorate of Pub-
lic Works, Fort Knox.
- 1994b A Phase I Archeological Survey of a Proposed Sports
Complex Area on the Fort Knox Military Reservation,
Hardin County, Kentucky. Directorate of Public
Works, Fort Knox.
- O'Malley, Nancy, Boyce Driskell, Julie Riesenweber, and
Richard Levy
1980 Stage I Archaeological Investigations at Fort Knox,
Kentucky. Archaeological Report No. 16, Department
of Anthropology, University of Kentucky, Lexington.
- Schenian, Pamela A.
1995a A Phase I Archaeological Survey of the Proposed Tim-
ber Harvest Areas in the Longstreet Range Road Pow-
erline Easement on the Fort Knox Military Reserva-
tion, Hardin County, Kentucky. Directorate of Public
Works, Fort Knox.
- 1995b A Phase I Archaeological Survey of the Proposed Ken-
tucky National Guard MATES Facility and Adjoining

Areas on the Fort Knox Military Reservation, Hardin County, Kentucky. Directorate of Public Works, Fort Knox.

Schenian, Pamela A., and Stephen T. Mocas

1994 A Phase I Archaeological Survey of the Fall 1994 Rehab Areas in Training Areas 9 and 10 on the Fort Knox Military Reservation, Meade County, Kentucky. Directorate of Public Works, Fort Knox.

United States Geological Survey

1991 Fort Knox, Kentucky-Indiana, 7.5 Minute Topographic Quadrangle.

APPENDIX A.
RESUMES OF KEY PERSONNEL

Pamela A. Schenian
Staff Archaeologist and Project Principal Investigator

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U.S. Army Armor Center and Fort Knox
Fort Knox, Kentucky 40121-5000
Phone: (502) 624-6581

Date and Place of Birth: January 1, 1959; Waukesha, WI.

Present Position: J.M. Waller & Associates/Fort Knox Contract Staff Archaeologist

Education:

A.B.D. in Anthropology, Northwestern University, 1984.
M.A. in Anthropology, Northwestern University, 1982.
A.B. in Anthropology, Bryn Mawr College, 1980.

Previous Employment:

Senior Staff Archeologist, Archeology Service Center, Department of Sociology, Anthropology, and Social Work, Murray State University, Murray, KY, November 1991-June 1993; Staff Archeologist, November 1983-November 1991.

Southern Illinois University, Carbondale, IL: Field Technician, November-December 1985, September-October 1984.

Illinois State Museum Society, Springfield, IL: Field Assistant II (Supervisor), summer 1983; Field Technician, summer 1981.

Center for American Archeology, Kampsville, IL: Field Technician, summer 1982.

Department of Anthropology, Northwestern University, Evanston, IL: Teaching Assistant, 1981-82 academic year.

Great Lakes Archeological Research Center, Milwaukee, WI: Field Technician, summer 1979.

Field Research Experience:

Field experience on prehistoric and historic archaeological projects in Illinois, Indiana, Kentucky, New Jersey, South Dakota, Tennessee, and Wisconsin, 1979-present.

Professional Publications, Reports, Papers and Manuscripts:
107 CRM contract reports on projects in Indiana, Kentucky, and Tennessee.

1 Homicide site excavation contract report prepared in lieu of court testimony in Illinois.

7 Papers presented at professional conferences.

5 Publications, 1 in press.

Doctoral candidacy qualifying paper: "A Theory of Individual Style Variation for Archeological Studies".

Ms. submitted in partial fulfillment of the M.A. requirements: "Models of Environmental-Cultural Relationships: Testing with Archeological Evidence".

Stephen T. Mocas
Contract Assistant Staff Archaeologist

Office Address: Directorate of Public Works
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U.S. Army Armor Center and Fort Knox
Fort Knox, Kentucky 40121-5000
Phone: (502) 624-6581

Present Position: University of Louisville Program of
Archaeology/Fort Knox Contract Assistant Staff Archeologist

Education:

Completed one year of doctoral program, Southern Illinois University, Carbondale, Illinois, 1972.

B.A. in Anthropology, University of Louisville, 1971.

Previous Employment:

Indiana University, Bloomington, Indiana: Staff Archaeologist, Part-time September 1991-Present.

Fort Knox/University of Louisville: Contract Assistant Staff Archaeologist, November 1993-December 1994.

Murray State University, Murray Kentucky: Staff Archaeologist, November 1991-November 1993.

Jefferson Community College, Louisville, Kentucky.
Anthropology Instructor, August 1981-December 1982.

Louisville School of Art, Louisville, Kentucky: Anthropology Instructor, January-May 1976.

University of Louisville Archaeological Survey, Louisville, Kentucky. Project Director, Field Supervisor, or Research Assistant on various projects, July 1969-January 1977.

State University of New York of Buffalo, Buffalo, New York. Senior Field Worker, June-August 1970.

Field Research Experience:

Field experience, Phase I-III, prehistoric and historic archaeological projects in the states of Illinois, Indiana, Kentucky, New York, and Tennessee, 1969-present.

Research Grants:

Six grants for fieldwork and research.

Professional Publications, Reports, Papers and Manuscripts:

5 Non-contract site reports on projects.

26 CRM contract reports on projects.

5 Chapters in additional site reports.

5 Publications.